TABLE 3.—*Maximum free-air wind velocities (m. p. s.) for different sections of the United States based on pilot balloon observations during October 1946*

Section	Surface to 2,500 meters (m. s. l.)					2,501 to 5,000 meters (m. s. l.)					Above 5,000 meters (m. s. l.)				
	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station
Northeast [1]	38.4	sw.	1,917	18	Portland, Maine										
	38.4	w.	634	1	Buffalo, N. Y.	45.4	nw.	3,537	3	Portland, Maine	72.0	w.	9,317	19	Portland, Maine.
East-Central [2]	43.7	wsw.	1,856	18	Greensboro, N. C.	55.5	wsw.	5,000	18	Huntington, W. Va.	78.4	wsw.	17,726	7	Richmond, Va.
Southeast [3]	31.7	se.	1,146	8	Charleston, S. C.	28.2	w.	5,000	12	Birmingham, Ala.	57.0	w.	14,473	14	Birmingham, Ala.
North-Central [4]	35.1	sw.	606	30	Alpena, Mich.	48.4	w.	4,951	26	Sault Ste. Marie, Mich.	92.1	n.	10,033	31	Green Bay, Wis.
Central [5]	53.5	wsw.	2,500	26	Sioux City, Iowa	62.0	wsw.	2,769	26	Sioux City, Iowa	79.3	w.	14,366	2	Springfield, Mo.
South-Central [6]	36.0	ssw.	2,500	29	Amarillo, Tex.	42.0	nw.	5,000	12	Memphis, Tenn.	60.0	w.	11,423	12	Fort Worth, Tex.
Northwest [7]	34.4	wsw.	2,350	23	Pocatello, Idaho	49.0	w.	4,450	25	Tatoosh Island, Wash.	78.0	nnw.	11,051	5	Medford, Oreg.
West-Central [8]	38.7	s.	2,273	1	Rock Springs, Wyo.	43.4	sw.	5,000	29	Denver, Colo.	82.0	n.	8,942	10	Salt Lake City, Utah.
Southwest [9]	28.0	sw.	2,465	2	Las Vegas, Nev.	48.0	sw.	4,780	29	Albuquerque, N. Mex.	80.8	wsw.	10,065	31	Tucson, Ariz.

[1] Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, and northern Ohio.
[2] Delaware, Maryland, Virginia, West Virginia, southern Ohio, Kentucky, eastern Tennessee, and North Carolina.
[3] South Carolina, Georgia, Florida, and Alabama.
[4] Michigan, Wisconsin, Minnesota, North Dakota, and South Dakota.
[5] Indiana, Illinois, Iowa, Nebraska, Kansas, and Missouri.
[6] Mississippi, Arkansas, Louisiana, Oklahoma, Texas (except El Paso), and western Tennessee.
[7] Montana, Idaho, Washington, and Oregon.
[8] Wyoming, Colorado, Utah, northern Nevada, and northern California.
[9] Southern California, southern Nevada, Arizona, New Mexico, and extreme west Texas.

RIVER STAGES AND FLOODS FOR OCTOBER 1946

C. R. JORDAN

Precipitation during October was above normal over most of the country west of the Mississippi River except a narrow strip along western California and the southern border of the Plains, Texas, Oklahoma, Arkansas, Louisiana, and southern Missouri. It was also wetter than usual in the Carolinas and northern Georgia, and in Pennsylvania and northern New York. Accumulations were much above the usual amounts over a broad strip of the west-central portion of the Great Plains, extending from North Dakota to the Texas Panhandle and over most of Nevada and western Utah. Less than half the usual rainfall was received in west-central Texas, the central Gulf coastal area, along the middle and north Atlantic coasts, and in northern Michigan.

Unusually high floods for this season of the year occurred in Texas, Oklahoma, and Kansas. Highest stages of record were reached at a few headwater stations.

Missouri Basin—Flooding occurred along the Republican River from Bloomington, Nebr., to Clay Center, Kans.; the smaller tributaries of the Republican River; the Saline River; and the Smoky Hill River at Abilene, Kans.

At Bloomington and Guide Rock, Nebr., the Republican reached the highest stages since 1935, but overflow along the stream in Kansas was light, generally not more than a foot above bankfull. Beaver Creek, Sappa Creek, and Prairie Dog Creek, all tributaries of the Republican, overflowed moderately. Damage in the Republican Basin was estimated at $386,000, most of which was in Franklin, Webster, and Nuckolls Counties, Nebr.

Rather severe overflow of the Solomon River was reported above Beloit, Kans., with moderate flood stages extending downstream. The crest at Beloit was 8.93 feet above flood stage, on the 11th. Damage along the Solomon River was set at $66,000.

One of the highest stages of record occurred on the Saline River at Tescott, Kans., where a crest 3.35 feet

above flood stage was reached on the 14th. Estimated damage in this basin was $25,000.

The Smoky Hill River overflowed slightly at Abilene, Kans. Overflow was due largely to water from the Solomon and Saline Rivers; practically no damage occurred in this basin.

Arkansas Basin.—Record-breaking floods occurred in the smaller streams of the Panhandle sections of Texas and Oklahoma as a result of heavy and general rains that occurred during the period October 4–10. Precipitation ranged from 1 to more than 8 inches, with the heaviest rain falling in the period from the 4th to the 6th. Considerable damage to crops, livestock, and property occurred in the upper North Canadian River Basin.

Press and other reports indicate that unusually high water levels were reached in the headwaters of the North Canadian River. The uppermost station operated by the Weather Bureau, Woodward, Okla., reported a crest of 9.8 feet at midnight, October 9–10, the fourth highest stage of record since 1919. Rainfall was light east of Woodward and the flood peak was reduced rapidly as it moved downstream. It is interesting to note that the time of crest travel from Woodward to El Reno, Okla., was 138 hours; it normally takes from 48 to 72 hours.

West Gulf of Mexico Drainage.—Heavy rain along the lower central section of the Guadalupe River produced severe flood conditions in the vicinity of Victoria, Tex. The United States Geological Survey reports that a stage of 31.6 feet was reached at the Victoria gaging station. This exceeded slightly the record flood of 1936 at Victoria. Water entered the town and spread over wide sections of farm lands. There was also some overflow of the Nueces River at Three Rivers, Tex., and the San Antonio River at Goliad, Tex.

The Rio Grande exceeded flood stage by 0.2 foot at Mercedes, Tex., on the 12th as a result of locally heavy rain, but little or no damage was reported.

FLOOD STAGE REPORT FOR OCTOBER 1946

[All dates in October unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest [1]	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE	*Feet*			*Feet*	
Waccamaw: Conway, S. C.	7	Aug. 31	Sept. 7	7.6	Sept. 3–4
MISSISSIPPI SYSTEM					
Missouri Basin					
Solomon:					
Beloit, Kans.	18	7	13	26.9	11
Minneapolis, Kans.	26	14	15	27.0	14
Niles, Kans.	24	15	16	26.4	16
Saline: Tescott, Kans.	25	12	14	28.4	14
Smoky Hill: Abilene, Kans.	22	16	18	23.4	17
Republican:					
Bloomington, Nebr.	8	6	6	8.4	6
		8	9	9.0	9
		11	11	8.2	11
Guide Rock, Nebr.	10	7	13	11.1	7
				11.6	10
				12.4	12
Hardy, Nebr.	11	10	10	11.2	10
		12	13	11.5	13
Scandia, Kans.	10	10	10	10.2	10
		12	13	10.6	13
Concordia, Kans.	8	13	13	8.2	13
Clay Center, Kans.	15	8	14	15.6	10
				16.2	14
Arkansas Basin					
North Canadian:					
Woodward, Okla.	5	7	12	9.8	9–10
Canton, Okla.	9	9	13	11.0	9
				13.0	12
Yukon, Okla.	11	10	18	11.4	10
				14.5	16
Canadian: Union City, Okla.	6	8	10	7.6	8
				7.8	10
Arkansas: Great Bend, Kans.	8	9	12	9.0	11
WEST GULF OF MEXICO DRAINAGE					
San Antonio: Goliad, Tex.	35	1	3	42.6	2
		17	18	37.1	18
Guadalupe: Victoria, Tex.	21	Sept. 29	Sept. 30	21.6	Sept. 30
		16	18	31.6	17
Nueces: Three Rivers, Tex.	37	12	19	42.7	13
Rio Grande: Mercedes, Tex.	21	12	12	21.2	12

[1] Provisional.